

ABSTRACT

5

The device is for monitoring the integrity of the position and speed information supplied by a hybrid system comprising an inertial unit INS readjusted using a GNSS satellite positioning receiver by means of a Kalman hybridization filter using a readjustment gain K and an evolution matrix F . It includes a satellite problem-detector circuit comprising a bank of predictor/estimator filters which uses the gain K and the evolution matrix F of the Kalman hybridization filter, each filter observing the deviation between the positioning point obtained from the N visible satellites, in the form of geographic coordinates, delivered by the GNSS receiver and one of the positioning points $P_{(N-1)/i}$, also in the form of geographic coordinates, delivered by this same GNSS receiver, obtained by using $N-1$ of the N visible satellites for resolution, and test circuits comparing the states of the predictor/estimator filters with their variances and detecting a satellite failure when a test is positive, the deviation found being greater than a detection threshold.

20